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ABSTRACT

An evaluation was conducted of the fourth year of a 5-year program in New York City, Choosing Optional Infused Career Education for Students in High School Bilingual Programs (Project CHOICE). The project is designed to provide services to Spanish-speaking and Haitian-speaking students of limited English proficiency at Fort Hamilton and Springfield Gardens High Schools, respectively. The project planned to offer eligible students double periods of instruction in English as a Second Language (ESL) and Native Language Arts (NLA); bilingual instruction in mathematics, science, and social studies; career opportunities through on-site career workshops and field trips to various companies; a bilingual resource enrichment center at both sites; classes in ESL and American culture for parents; on-site training sessions for staff; and translations of curriculum guides on computer literacy and computer science. During the 1991-92 school year, the project enrolled 294 Spanish, 133 Haitian, and 11 unclassified high school students, of whom 92.5 percent were eligible for free lunches. The Spanish and Haitian NLA programs were strong. Project CHOICE was fully implemented. It met its objectives for NLA, career advisement, dropout rate, staff development, and parent involvement. The project partially met its objective in the content areas. The project came close, but failed to meet its objective for ESL. Recommendations for program improvement are suggested. Appendixes describe data collection and analysis and instructional materials. (RLC)

Choosing Optional Infused Career Education for Students in
High School Bilingual Programs
(Project CHOICE)
Transitional Bilingual Education Grant T003A80102
1991-92

FINAL EVALUATION PROFILE

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FOREWORD

The body of this report is preceded by an Extract which presents an overview of salient points of the project: funding cycle; enrollment figures; background of students served; admission criteria; and programming features, strengths, and limitations, including the outcome of all objectives. The extract also presents the conclusions drawn by the Office of Research, Evaluation, and Assessment (OREA) about the program and its recommendations for program improvement.

The extract is followed by the body of the report, titled Program Assessment. This includes such information as staffing, program implementation, and outcome and implementation objectives. Instructional objectives are presented first, followed by noninstructional objectives. The report then addresses those aspects of programming mandated by Title VII regulations that do not have specifically stated objectives. This may be information on attendance and dropout rate, grade retention, mainstreaming, referrals out of the program to meet special needs of the students, and withdrawals. A case history concludes the report.

Data for this profile were collected and analyzed using a variety of procedures, which are described in Appendix A following the text.

Office of Research, Evaluation, and Assessment
New York City Public Schools

E.S.E.A. Title VII Evaluation Profile

Choosing Optional Infused Career Education for Students in High School Bilingual Programs (Project CHOICE)

Transitional Bilingual Education Grant T003A80102
1991-92

EXTRACT

PROJECT DIRECTOR: Ms. Janine Anastasiadis

FUNDING CYCLE: Year 4 of 5

SITES

School	Borough	Grade Levels	Enrollment* (fall)	Enrollment* (spring)
Fort Hamilton High School	Brooklyn	9-12	293	234
Springfield Gardens High School	Queens	9-12	125	133

*The project enrolled 438 students (one less than in the previous year), 355 of whom participated both semesters. Male students numbered 218, female 195; gender was not reported for 25. Students served totaled 418 in the fall and 367 in the spring.

STUDENT BACKGROUND

Native Language	Number of Students
Spanish	294
Haitian	133
Unreported	11

Countries of Origin	Number of Students
Haiti	133
Dominican Republic	115
Mexico	38
Puerto Rico	30
Ecuador	29
El Salvador	15
Guatemala	10
Peru	10
China	7
Hong Kong	6
Nicaragua	6
Venezuela	5
Other	21
Unreported	13

Median Years of Education in Native Country: 8.0; in the United States: 2.0

Percentage of Students Eligible for Free Lunch Program: 92.5

ADMISSION CRITERIA

The project admitted students who scored at or below the 40th percentile on the Language Assessment Battery (LAB) and were thus categorized as being of limited English proficiency (LEP). At Springfield Gardens High School, participating students had to be speakers of Haitian as indicated by the school's Home Language Survey.

PROGRAMMING

Design Features

Project CHOICE was designed to provide services to Spanish- and Haitian-speaking students of limited English proficiency (LEP) at Fort Hamilton and Springfield Garden High Schools respectively. The project was designed to offer eligible students double periods of instruction in English as a Second Language (E.S.L.) as well as instruction in Native Language Arts (N.L.A.). Project staff would offer bilingual instruction in mathematics, science, and social studies. Parallel to their classroom instruction, project students would be introduced to various career opportunities through on-site career workshops and field trips to various companies. The project planned to organize a bilingual resource enrichment center at both sites to offer students and their families guidance and support services. Classes in E.S.L. and American culture would be offered to parents.

The project proposed to hire one family assistant at Fort Hamilton High School to address many of the personal and family problems of newly arrived students, as well as four student aides (two for each site) in the 1991-92 academic year. The project planned to offer on-site training sessions for staff and provide them with the opportunity to attend college courses. Project CHOICE proposed to translate curriculum guides on computer literacy and on computer science. It projected the preparation of a bilingual newsletter through which it would disseminate information about the program to other sites with similar populations.

Capacity building. In the 1993-94 school year, Fort Hamilton High School plans to assume all costs of the program and will provide services in accordance with the Guidelines for Programs under Part 154 of the Chancellor's Regulations for LEP pupils. The new funding source will be basic tax levy. The program will have a bilingual coordinator funded by tax levy and an educational assistant funded by Pupils with Compensatory Educational Needs (P.C.E.N.).

Strengths and Limitations

There were strong Spanish and Haitian N.L.A. programs. Staff served as translators and liaison between school personnel and project students and parents.

Personnel at both sites reported that more guidance and family outreach services were needed. Although limited funding prevented the project from hiring a family assistant, the project plans to hire one in the future.

CONCLUSIONS AND RECOMMENDATIONS

Project CHOICE was fully implemented. It met its objectives for N.L.A., career advisement, dropout rate, staff development, and parent involvement. The project partially met its objective in the content areas. The project came close but failed to meet its objective for E.S.L.

The conclusions, based on the findings of this evaluation, lead to the following recommendations:

- Reallocate resources to provide additional family assistance and guidance services.
- Provide additional native language instruction in the content areas.
- Explore ways of augmenting E.S.L. instruction. Teachers have a variety of techniques available but should evaluate them to see which appear to be most successful.

PROGRAM ASSESSMENT

STAFFING

Title VII Staff (Total 6)

Title	Degree	Language Competencies	Title VII Funding
Project Director	A.B.D.	Spanish, Haitian, French	Part-time
Resource Specialist	M.A.	Spanish	Part-time
Resource Specialist	B.A.	Haitian, French	Part-time
Educational Assistant	College credit	Spanish, Arabic	Full time
Educational Assistant	A.S.	Haitian, French	Full time
Parent Trainer	M.A.	Spanish	Part-time
Student Aide	--	Spanish	Part-time
Student Aide	--	Haitian	Part-time

Other Staff Working with Project Students (Total 57)

Title		Degree		Certification		Language Competencies and Teaching Communicative Proficiencies(TP,CP)*	
Teacher	40	Ph.D.	2	E.S.L.	15	Spanish	TP 16, CP 6
Educational Assistant	6	A.B.D.	1	Spanish	8	Italian	TP 3, CP 1
Guidance Counselor	4	M.F.A.	1	English	7	French	TP 5, CP 7
Grade Advisor	3	M.A./M.S.	38	Bil. Math Span.	1	Haitian	TP 4
A.P. Foreign Lang.	2	B.A.	9	Social Studies	3	Mandarin	TP 2
A.P. Administration	1	H.S.	5	Bil. Science Span.	1	Cantonese	TP 2
A.P. Guidance	1	Unreported	1	Bil. Soc. Stud. Span.	2	Arabic	TP 2
				Guidance (Eng.)	2	German	TP 1
				Mathematics	1	Greek	TP 1
				Special Education	1		
				Foreign Languages	2		
				French	2		
				E.S.L. T.P.D.	1		
				Bil. Math. T.P.D	1		

All teachers were certified in the areas in which they taught.

IMPLEMENTATION AND OUTCOMES (Objectives prefaced by •)

English as a Second Language (E.S.L.)

The project used a number of instructional techniques, including peer tutoring, computer-assisted instruction (C.A.I.), cooperative learning, small-group and whole-class instruction, audiolingual strategies, developmental techniques, and dialogue journals.

See Appendix B for a list of materials used.

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*Teaching Proficiency (TP): Competent to teach in this language.
Communicative Proficiency (CP): Conversational capability only.

E.S.L. CLASSES

Sites	Level	Periods Weekly	Students Enrolled
Fort Hamilton High School	Beginning	15	101
	Intermediate	10	101
	Advanced	10	37
	Transitional	10	7
Springfield Gardens High School	Literacy	10	21
	Beginning	10	21
	Intermediate	10	50
	Advanced	5	44
	Transitional	10	25

- As a result of participation in the program 75 percent of the students will demonstrate a significant increase in English language skills.

Evaluation Instrument: Language Assessment Battery (LAB)**

Pretest: May 1991; posttest: May 1992.

Fort Hamilton High School

Number of students for whom pre- and posttest data were reported: 203

Percent of students with pretest/posttest gains: 69.0

Mean gain: 7.64 N.C.E.s (s.d.=11.0)

Mean gain is statistically significant (t=9.92, p<.05).

Springfield Gardens High school

Number of students for whom pre- and posttest data were reported: 104

Percent of students with pretest/posttest gains: 80.8

Mean gain: 11.6 N.C.E.s (s.d.=11.22)

Mean gain is statistically significant (t=10.57, p<.05).

Project met objective at Springfield Gardens High School. Although the students demonstrated significant gains in E.S.L., the project did not meet the objective at Fort Hamilton High School.

**OREA used a gap reduction design to evaluate the effect of supplementary instruction on project students' performance on the LAB. Since all LEP students in New York City are entitled to such instruction, no valid comparison group exists among these students, and OREA used instead the group on which the LAB was normed. Test scores are reported in Normal Curve Equivalents (N.C.E.s), which are normalized standard scores with a mean of 50 and a standard deviation of 21.06. It is assumed that the norm group has a zero gain in N.C.E.s in the absence of supplementary instruction and that participating students' gains are attributable to project services.

Native Language Arts (N.L.A.)

Students lacking literacy skills in native language (estimated): Spanish 40 percent, Haitian 50 percent.

Project staff used computer-assisted, whole class, and small group and individualized instruction; peer tutoring; cooperative learning; developmental strategies; and dialogue journals.

See Appendix B for a list of materials used.

N.L.A. CLASSES

High School	Level	Periods Weekly	Students Enrolled
Fort Hamilton (Spanish)	Beginning	5	44
	Intermediate	5	167
	Advanced	5	53
Springfield Gardens (Haitian)	Beginning	10	34
	Intermediate	5	38

- As a result of participation in the project students will demonstrate a significant increase in N.L.A. language skills (Spanish or Haitian)

Evaluation Indicator: final course grades.

PASSING GRADES IN NATIVE LANGUAGE ARTS

Language	Enrollment		Percent Passing	
	Fall	Spring	Fall	Spring
Haitian	48	74	93.8	79.7
Spanish	215	211	80.0	80.1

Project met objective for N.L.A.

Content Area Subjects

The project used whole class, small group, and C.A.I. as well as cognitive learning techniques, peer tutoring, and developmental lessons. At Fort Hamilton High School, the students received content area instruction in Spanish and English. At Springfield Gardens High School, the content area instruction was in Haitian supplemented by English. Content area courses were offered five times per week at both sites.

See Appendix B for a list of materials used.

- As a result of participation in the program 75 percent of program students will achieve a passing grade in the subject areas of math, science, and social studies.

Evaluation Indicator: final course grades.

PASSING GRADES IN CONTENT AREA COURSES

High School	Subject	Fall Enrollment	Fall Percent Passing	Spring Enrollment	Spring Percent Passing
Fort Hamilton	Mathematics	221	48.9	199	49.2
	Science	143	66.4	107	83.2
	Social Studies	210	63.8	211	66.4
Springfield Gardens	Mathematics	115	50.4	121	56.2
	Science	113	68.1	110	57.3
	Social Studies	120	77.5	116	74.1

Project CHOICE met the content area objective for science in the spring semester at Fort Hamilton High School and for social studies in both semesters at Springfield Gardens High School. The project director will look into the possibility of initiating a special dual literacy program to assist those students who have difficulty with the content area subjects and lack literacy skills in both their native language and English.

Project partially met objective for content areas.

Career Advisement

- As a result of the program, all program students will participate in at least two career conferences.

At Springfield Gardens High School, program students received career information at regular meetings with the school's college counselor. In addition, students participated in two career development days, one on-site and the other at Queens College. Eleventh graders participated in an internship program sponsored by the New York City Public Schools.

Students at Fort Hamilton High School attended a college fair held at the site and participated in the State University of New York (SUNY) Community Outreach Program's Fifth Annual College Fair held at the Brooklyn Academy of Music.

Project met objective for career advisement.

Other Activities

Project CHOICE provided a Bilingual Enrichment Center at both sites. These centers housed the project's computers and provided Title VII staff with a place to offer tutoring and counseling to program students. New York State Categorical Funds provided an after-school program to prepare students for the Regents Competency Test (R.C.T.) and Scholastic Aptitude Test (S.A.T.).

The project provided a number of cultural activities for project students. Students at Fort Hamilton High School went on a trip to the United Nations, attended the Ballet Hispánico at Brooklyn College, and the play *Botánica* at the Spanish Repertory Theater.

Project CHOICE developed a bilingual project newsletter at both sites and issued it in both the fall and the spring. The project also had a parent advisory committee (PAC) at each site. Although it had proposed to provide babysitting services for the parents of project students, parents never requested these services so they were not provided.

ED357097

OREA Report

hoosing Optional Infused Career Education for Students in High School Bilingual Programs (Project CHOICE)

Transitional Bilingual Education Grant T003A80102
1991-92

FINAL EVALUATION PROFILE

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Attendance

The project did not propose a specific objective for attendance. However, comparative attendance rates are shown below.

ATTENDANCE RATES

High School	Project Students	Mainstream Students	Difference
Fort Hamilton	92.5	82.9	9.6
Springfield Gardens	95.0	82.2	12.8

Last year, the project attendance rate was 90.8 at Fort Hamilton High School and 83.3 at Springfield Gardens High School. Both schools showed a substantial increase this year.

Dropout

- As a result of participation in the program, the dropout rate of the program students will be less than mainstream students.

DROPOUT RATES

High School	Project Students	Mainstream Students	Difference
Fort Hamilton	6.1	7.1	-1.0
Springfield Gardens	0.7	4.0	-3.3

Project met objective for dropout rate.

Last year, the project dropout rate was 1.4 at Fort Hamilton High School and 1.3 at Springfield Gardens High School.

Grade Retention

No students were retained in grade. Forty students were retained in grade the previous year. Project CHOICE did not formulate a specific objective for the reduction of grade retention, since the entire program was viewed as having this purpose.

Enrollment in Post-Secondary Institutions

Several students expressed a desire to enroll in post-secondary institutions. Project CHOICE did not propose any objective in this area.

Students With Special Academic Needs

Referred to special education. At both sites, students who consistently demonstrated multiple scholastic failures but had good attendance records were referred to the School-based Support Team (S.B.S.T) for evaluation. No students were referred to special education this year. Last year, one student was referred.

Remedial programs. No students were referred to remedial programs this year or last year. The project offered tutoring to those students requiring it.

Gifted and talented programs. No students were recommended to programs for the gifted and talented this year or last.

At Fort Hamilton High School, gifted and talented students were placed in honor classes, advanced placement, and/or were referred to special programs for college-bound students offered by local colleges and communities. At Springfield Gardens High School, gifted and talented students were encouraged to participate in a variety of contests.

Mainstreaming

Project CHOICE mainstreamed 9 students (2.1 percent of participants), all at Fort Hamilton High School. Last year 15 students (3.4 percent of participants) were mainstreamed.

Academic achievement of former project students in mainstream. At both sites, project staff followed the academic progress of program students who were mainstreamed. These students continued to use the program's enrichment center and computers and to attend program-sponsored activities.

No other data were available on any former project students who had been mainstreamed.

Staff Development

- As a result of participation in the program, staff will demonstrate professional growth.

At Fort Hamilton High School, the resource specialist and educational assistant completed college courses during both fall and spring semesters.

Both sites offered staff workshops on C.A.I., placement issues, dual literacy, cooperative learning strategies, maximizing professional growth, evaluating N.L.A. achievement, methods and materials for teaching bilingual social studies, providing quality education to Latino LEP students, multicultural education, E.S.L. instructional techniques, and teamwork between the bilingual teacher and the bilingual educational assistant. The project director reported that all staff benefitted from these activities.

Project met staff development objective.

Curriculum Development

The staff at Fort Hamilton High School developed lesson plans for C.A.I. in mathematics and lesson plans for N.L.A., E.S.L., and the E.S.L. parental component.

At Springfield Gardens High School, the staff adapted a social studies glossary. Project staff also translated the New York City Public Schools' curriculum guides on computer literacy into the students' native languages and evaluated new commercially prepared materials.

Project CHOICE did not propose an objective in this area.

Parent Involvement

- As a result of the program the parents of the students in the program will demonstrate more parental involvement than the parents of mainstream students.

Project parents were regularly informed about their child's progress and met with program teachers at scheduled meetings. At Fort Hamilton High School, 73 percent of the program parents attended Open School Day/Evening and special assemblies as compared to 51 percent of the non-program parents, and 25 project

parents participated in E.S.L./Americanization classes. Mainstream parents did not attend any classes after school.

At Springfield Gardens High School 90 percent of project parents participated in Open School Day/Night Conferences. The project director reported that 5 percent of the non-program parents participated in parent-teacher conferences. Twenty-eight project parents attended the Parent Institute at the State Association of Bilingual Education (SABE) conference and regularly attended E.S.L./Americanization classes. Nine program parents attended high school equivalency classes at the Haitian American United for Progress (HAUP) Center and 15 program parents participated in Parent Leadership workshops. Non-program parents did not attend classes, workshops, or the SABE conference.

Project met the objective for parental involvement.

CASE HISTORIES

Latino Component:

D.C. was born in Guatemala in 1974 and came to the United States in December 1988. Upon entering Fort Hamilton High School in the tenth grade, her English LAB score ranked in the first percentile. She scored in the 99th percentile on the Spanish LAB, which indicated that she was very literate in her native language. D.C. was in the project for three years, during which time the project staff tutored her in the Bilingual Enrichment Center. She received R.C.T. preparation with the use of project computers and maintained an average of between 84 and 88 over three years.

D.C. participated in the project's trips to career fairs, museums, and plays and was involved in many extracurricular activities. She assisted students in art class, worked on the school yearbook, performed in multicultural assemblies, and volunteered as editor for the Spanish section of the school's Foreign Language Department magazine. Much of her artwork was published in this magazine. She graduated in June and was interested in pursuing a career in marine biology. She was confident that she would graduate from college, the first in her family to do so.

Haitian Component:

T.M. was born in Haiti and has participated in the project at Springfield Gardens High School for two years. As a result of her participation in the project, T.M. became English proficient and graduated this year with a 92 percent academic average. She was a member of Arista, the national honor society. T.M. was also a member of the Haitian club sponsored by the project and participated in all cultural activities. T.M.'s goal is to complete college and ultimately attend medical school.

APPENDIX A

DATA COLLECTION AND ANALYSIS

COLLECTION

OREA evaluation consultants visit sites and interview key personnel. The project director gathers data and, with the consultant, completes forms (as shown below) as necessary.

Student Data Form

This one-page form is filled out by staff for each participating and mainstreamed student. OREA gathers data from this form on backgrounds, demographics, academic outcomes, attendance, referrals, and exit from the program.

Project Director's Questionnaire

The Project Director's Questionnaire includes questions on staff qualifications, program implementation, periods of instruction, and instructional materials and techniques.

Project Director's Interview

The interview gathers information on program and student or staff characteristics not supplied by the Project Director's Questionnaire. The interview also allows project staff to offer qualitative data or amplify responses to the questionnaire.

Citywide Test Scores

OREA retrieves scores centrally from the Language Assessment Battery (LAB) and other citywide tests. For evaluation purposes, these test scores are reported in Normal Curve Equivalents (N.C.E.s). N.C.E.s are normalized standard scores with a mean of 50 and a standard deviation (s.d.) of 21.06. They constitute an equal-interval scale in which the distance is the same between any two adjacent scores. A gain of 5 N.C.E.s is the same whether it is at the lower or the higher end of the scale. N.C.E.s can be used in arithmetic computations to indicate group progress. (Percentile scales, although more familiar to many, are unsuitable for such computations since they are not equal-interval.)

Likert-Type Surveys

Likert-type surveys, in which respondents mark their opinions on a scale from one to five, are used in a variety of ways. They examine student attitudes (i.e., toward school and career, native language use, and native and mainstream cultures). They also assess staff and parent attitude and reactions to workshops and other activities.

ANALYSIS

Gap Reduction Evaluation Design

OREA uses a gap reduction design for measuring changes in standardized tests. Since no appropriate non-project comparison group is available in New York City, where all students of limited English proficiency (LEP) are entitled to receive supplementary services, OREA compares the progress of participating students with that of the group on which the test was normed. It is assumed that the norm group would show a zero gain in the absence of instruction, and gains made by project students could be attributed to project services. Scores are reported in Normal Curve Equivalents (N.C.E.s), which are normalized standard scores with a mean of 50 and a standard deviation of 21.06. (See "Citywide Test Scores" above.)

To test whether pre/posttest gains are greater than could be expected by chance alone, OREA uses a *t*-test. To test whether a difference between two proportions (e.g., program and mainstream attendance rates) is

greater than could be expected by chance, OREA uses a *z*-test and reports the differences between the two proportions. The level of significance is set at .05 for all tests.

Techniques For Minimizing Error

The evaluation procedures minimize error by providing for proper administration of evaluation instruments through a combination of testing at 12-month intervals, appropriate analysis procedures and reporting.

Instruments of measurement include the LAB (see above), the Degrees of Reading Power (D.R.P.) test, the Metropolitan Achievement Test--Mathematics (MAT-Math), El Examen de Lectura en Español (ELE), Likert-type scales (see above), and project-developed tests. Except for Likert scales and project-developed tests, these instruments are scored on a citywide basis at the Scan Center of the New York City Public Schools.

APPENDIX B

INSTRUCTIONAL MATERIALS

English as a Second Language

Fort Hamilton High School

Reading and Writing Skills	S. Siegal	N.Y.C. Board of Education, 1980
A New Beginning	Church, Hyzer, Niedermeier	Prentice Hall Regents, 1988
From Sea to Shining Sea	Harris	Prentice Hall Regents, 1985

Springfield Gardens High School

Skill Sharpeners for E.S.L. Students	Filippo, Skidmore, Walker	Addison-Wesley, 1984
English Alpha	Kenton, Sutherland	Houghton, Mifflin Co.,1981
Computer Assisted Instruction	Hamilton, Hombs	Educational Activities Inc., 1985
Great American Stories 1	Draper	Prentice Hall Regents, 1985

Native Language Arts

Fort Hamilton High School

Nuevos cuentos contados	Pitarro	Heath, 1966
Un verano en Méjico	Cabat	Amsco, 1975
El Hidalgo de la Mancha	D. Quilter	Houghton, Mifflin Co. 1973

Springfield Hamilton High School

Tezen	Madhere	------
Haitian Creole, Vol. I and II	Valdman	Indiana Univ. Creole Institute, 1981
Fle Dize	Martineau	------
Esperans Dezire	Deyla	Edition Henri Deschamps, 1989
Lekti Ak Graame	Komite Karitas	Imprimerie Henri Deschamps
Letki Kreyol	------	Enstiti Pedagogik Nasyonal, 1988
Ann Aprann Li Pi Byen	Project CHOICE	NYC Board of Education, 1990
Djakout 1,2,3,4	Felix Moriso Lewa	Ed Haitians Publications, 1990

Mathematics

Fort Hamilton High School

General Mathematics	Lawrence, Rucker, Ockenga	Heath, 1985
Preliminary Mathematics	Dressler	Amsco, 1981
Mathematics: A Topical Approach	Bumby, Klutch	Merrill, 1982
Matemáticas	Orfan, Vogeli	Silver Burdett & Ginn 1989

Springfield Gardens High School

Applying Mathamatics	Shutle, Haynes, Choate	Laidlaw Brothers, Pub., 1986
Fundamentals of Mathamatics, Vol. II	Cullen, Petruzillo, Cohen	Barron's Educational Series Inc., 1984
Intergrated Mathematics Course I and II	Dressler, Keenan	Not Reported, 1980
Fundamentals of Math	Cecilia Cullens	Barron's Educational Series, 1984
Annou Dekouvri Aljeb	Project CHOICE	NYC Board of Education, 1990
Kalkil ak Sistem Metrik	Ed des Antilles	------
Problem Jeyomitri	Ed. Caritas	Ench, 1987

Science

Fort Hamilton High School

La energía y la materia	Heimler, Price	Merrill, 1985
Biología	Alexander,Bahret, Chavez	Silver Burdett & Ginn, 1987

Springfield Gardens High School

Syans Fizik 9th Year Creole Edition	Project Mobile, Title VII	B.O.E. Experimental Edition
Modern Physical Science	Tracy, Tropp, Friedl	Holt, Rinehart, Winston, 1983
Physics	Beiser	Cummings Pub. Co., 1973
Conceptual Physics	Hewitt	Addison Wesley, 1987
Chemistry Workshop	Rosen	Globe Book Co., 1983
Gid Laborativa Biyoloji (Lab I)	------	NYC Board of Education, 1991

Social Studies

Fort Hamilton High Schools

Historia Universal	Bartoli, Martinez	Trillas, 1988
Europa, Africa, Asia, Australia	Elbow	Silver Burdett & Ginn, 1985
Canada y América Latina	Elbow	Silver Burdett & Ginn, 1985

Springfield Gardens High School

Global Studies Barron Review	Willner, Wiener, Hero	Barrons, 1990
Global Studies	Brun	Amsco Inc., 1988
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